9. AIR QUALITY

9.1 Introduction

9.1.1 Background & Objectives

This chapter of the rEIAR describes and assesses the residual direct and indirect air quality impacts of peat extraction activities and all ancillary works, at the Application Site. The air quality impact assessment has been prepared for both the Peat Extraction Phase, the Current Phase and the Remedial Phase of the Project. The baseline environment has been prepared with reference to published air quality data from the Environmental Protection Agency (EPA). For the purposes of this assessment, while the activities associated with the Project assessed have occurred over the past decades, beginning in 1988 and continuing to present day, impacts have been assessed against the most recently published air quality standards which are likely more stringent than historical standards from previous years. Therefore, if it can be determined that, based on the most recent standards, no significant effects occurred as a result of the Project, then it is unlikely that significant impacts occurred based on historical standards.

9.1.2 Statement of Authority

This chapter of the rEIAR has been prepared by the following staff of AWN Consulting Ltd:

Ciara Nolan

Ciara Nolan (Senior Air Quality Consultant) holds a BSc(Eng) in Energy Systems Engineering from University College Dublin and has also completed an MSc in Applied Environmental Science at UCD. She is a Member of the Institute of Air Quality Management (MIAQM) and the Institute of Environmental Science (MIEnvSc). Ciara has over 7 years of experience in the field of air quality consultancy. She has prepared the air quality and climate EIAR chapters for a range of developments including wind energy, industrial, pharmaceutical, data centre, residential and commercial.

9.1.3 Project Description

A full description of the Project is provided in Chapter 4. A brief summary pertaining to Air Quality of the Project Phases, as detailed in Section 4.2.1 in Chapter 4, is provided in the following sections.

9.1.3.1 Peat Extraction Phase: July 1988-June 2020

Site preparation works including the implementation of drainage channels commenced at the Application Site in 1948. This was followed by an industrial peat extraction which continued across four of the five bogs over the following decades. The majority of the Application Site was drained by 1988 and peat extraction activities and all ancillary works were active across much of the Application Site at that point. From 2003 onwards, peat extraction was limited to Ballivor, Carranstown and Bracklin Bogs before ceasing completely in June of 2020. Dust emissions and vehicle and machinery exhaust emissions were the primary impacts to air quality as a result of the peat extraction activities and all ancillary works.

9.1.3.2 Current Phase: June 2020 to present day

Peat extraction ceased at the Application Site in June 2020. During the Current Phase, the activity on the Application Site is much reduced with respect to the Peat Extraction Phase. On site activities are

limited to removal of the existing peat stockpiles from Bracklin, Carranstown and Ballivor Bogs and transportation off site which was completed in 2023. Other activities ongoing during the Current Phase include environmental and ecological monitoring associated with the IPC Licence requirements. There are some vehicle and machinery related exhaust emissions associated with the current works, primarily as a result of the removal of the existing peat stockpiles. Exhaust emissions have the potential to impact air quality, however, to a lesser degree than during the Peat Extraction Phase. In addition, there will be some minor dust emissions associated with the removal of the current peat stockpiles which will impact air quality. However, these dust emissions will be significantly less than those during the Peat Extraction Phase.

9.1.3.3 Remedial Phase

It is a requirement of 'Condition 10 Cutaway Bog Rehabilitation' of the EPA Licence that following decommissioning of use of all or part of their bogs, Bord na Móna, prepares (to the satisfaction of the EPA) and implements a Cutaway Bog Decommissioning and Rehabilitation Plan – see Appendix 4-2 for details.

There will likely be minimal use of diggers to assist in drain blocking activities, however, due to the short-term duration of the drain blocking activities and the low volume of machinery involved (likely 1 no. digger and 1 no. tractor per bog) impacts to air quality from exhaust emissions will be imperceptible. Ecologists and site managers will visit the Application Site regularly for monitoring purposes which will also result in air emissions from vehicles, however these will be minimal due to the low number of vehicles required.

9.2 Methodology

9.2.1 EPA Description of Effects

The significance of effects of peat extraction activities and all ancillary works will be described in accordance with the EPA guidance document *Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR), May 2022.* Details of the methodology for describing the significant of the effects are provided in Chapter 1 – Introduction.

The effects associated with the peat extraction activities and all ancillary works are described with respect to the EPA guidance in the relevant sections of this chapter.

9.2.2 Assessment Criteria

9.2.2.1 IPC Licence Criteria

There are no statutory limits on dust deposition and the focus is on the prevention of nuisance and minimising air borne dust emissions where practicable. Although coarse dust is not regarded as a threat to health, it can create a nuisance by depositing on surfaces. Condition 5 of the Integrated Pollution Control Licence Reg No P0501-01 issued to Bord na Móna Energy Limited in April 2000 is specific to Emissions to Atmosphere, including dust emissions. The following conditions apply:

5.2 The licensee shall ensure that all operations on-site shall be carried out in a manner such that air emissions and/or dust do not result in significant impairment of, or significant interference with amenities or the environment beyond the site boundary.

5.3 Within three months of the date of grant of the licence, the licensee shall submit to the Agency for agreement, a proposal for the identification and monitoring of Dust Sensitive Locations (DSL's) on and off site for dust deposition. A report on this monitoring shall be submitted annually as part of the AER.

5.4 Activities on-site shall not give rise to dust levels off site at any Dust Sensitive Location which exceed an emission limit of 350 mg/m^2/day. [The sampling method to be in accordance with German TA Luft Immission Standards for Particle Deposition (IW1)].

The dust emission limit value of 350 mg/m^2/day is applicable to the Peat Extraction Phase, Current Phase, and Remedial Phase of this assessment.

9.2.2.2 Air Quality Standards

In addition to the above licenced condition in relation to dust emissions and dust deposition, emissions of nitrogen dioxide (NO_2), particulate matter less than 10 microns (PM_{10}) and particulate matter less than 2.5 microns ($PM_{2.5}$) also have the potential to impact air quality at sensitive locations as a result of activities associated with the Peat Extraction Phase, the Current Phase and Remedial Phase.

In 1996, the Air Quality Framework Directive (96/62/EC) was published. This Directive was transposed into Irish law by the Environmental Protection Agency Act 1992 (Ambient Air Quality Assessment and Management) Regulations 1999. The Directive was followed by four Daughter Directives, which set out limit values for specific pollutants:

- The first Daughter Directive (1999/30/EC) addresses sulphur dioxide, oxides of nitrogen, particulate matter and lead;
- The second Daughter Directive (2000/69/EC) addresses carbon monoxide and benzene. The first two Daughter Directives were transposed into Irish law by the Air Quality Standards Regulations 2002 (SI No. 271 of 2002);
- The third Daughter Directive, Council Directive (2002/3/EC) relating to ozone was published in 2002 and was transposed into Irish law by the Ozone in Ambient Air Regulations 2004 (SI No. 53 of 2004); and,
- The fourth Daughter Directive[1], published in 2004, relates to polyaromatic hydrocarbons (PAHs), arsenic, nickel, cadmium and mercury in ambient air and was transposed into Irish law by the Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations, 2009 (S.I. No. 58 of 2009).

The Air Quality Framework Directive and the first three Daughter Directives have been replaced by the Clean Air for Europe (CAFE) Directive (Directive 2008/50/EC on ambient air quality), which encompasses the following elements:

- The merging of most of the existing legislation into a single Directive (except for the Fourth Daughter Directive) with no change to existing air quality objectives;
- New air quality objectives for particulate matter less than 2.5 micrometers (µm) referred to as $PM_{2.5}$ including the limit value and exposure concentration reduction target;
- The possibility to discount natural sources of pollution when assessing compliance against limit values; and,
- The possibility for time extensions of three years for particulate matter less than 10µm (PM_{10}) or up to five years (nitrogen dioxide, benzene) for complying with limit values, based on conditions and the assessment by the European Commission.

The CAFE Directive is transposed into Irish legislation by the Ambient Air Quality Standards Regulations 2022 (S.I. No. 739/2022). These regulations supersede the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011), which previously superseded the Air Quality Standards Regulations 2002 (S.I. No. 271 of 2002), the Ozone in Ambient Air Regulations 2004 (S.I. No. 53 of

[1] *IEEP Fourth Daughter Directive 2004. Available at: https://ieep.eu/publications/the-fourth-air-quality-daughter-directive-impacts-and-consequences-of-mandatory-limits/*

2004), and the Ambient Air Quality Assessment and Management Regulations 1999 (S.I. No. 33 of 1999).

The Air Quality Standards Regulations 2022 set similar or more stringent limit values in relation to the air pollutants outlined in the previous directives and also set limit values in relation to $PM_{2.5}$. The ambient air quality standards applicable for PM_{10} and $PM_{2.5}$ outlined in Directive 2008/50/EC have been used in this assessment to determine the impact of the Project in the Peat Extraction Phase, and Current Phase on air quality as these are more stringent than previous limits thus ensuring a conservative approach for the assessment (see Table 9-1).

Air quality impacts are assessed at sensitive receptors off-site (see Section 9.2.3 in relation to assessment study area). Sensitive receptors for the purposes of this assessment are any occupied dwelling house, hostel, health building or place of worship and may include areas of particular scenic quality or special recreational amenity importance. Areas of ecological importance where designated species may be adversely impacted by dust soiling are also considered sensitive locations.

Table 9-1 Ambient Air Quality Standards Defined in Directive 2008/50/EC [Note 1]

Pollutant	Limit Type	Value
Nitrogen Dioxide (NO_2)	Hourly limit for protection of human health - not to be exceeded more than 18 times/year	200 µg/m^3
	Annual limit for protection of human health	40 µg/m^3
	Critical level for protection of vegetation	30 µg/m^3 NO + NO_2
Particulate Matter (as PM_{10})	24-hour limit for protection of human health - not to be exceeded more than 35 times/year	50 µg/m^3
	Annual limit for protection of human health	40 µg/m^3
Particulate Matter (as $PM_{2.5}$)	Annual limit for protection of human health	20 µg/m^3

[Note 1] EU 2008/50/EC – Clean Air For Europe (CAFÉ) Directive replaces the previous Air Framework Directive (1996/30/EC) and daughter directives 1999/30/EC and 2000/69/EC

9.2.3 Study Area

In relation to potential dust impacts, the IAQM Guidance states that dust impacts to people and property can occur up to 250m from the source. In addition, the guidance states that dust impacts to vegetation can occur up to 50m from a site and 50m from site access roads, up to 250m for a site entrance (IAQM, 2024). As a result, the study area with respect to dust impacts extends to 250m from the Application Site boundary for the purposes of this assessment (hereafter referred to as the 'Study Area'). Figure 9-1 shows the sensitive receptors within the Study Area.

In relation to air quality impacts from vehicle emissions, the TII PE-ENV-01106 guidance (TII, 2022) states that a detailed air quality assessment is required where there are sensitive receptors (human or ecological) within 200m of affected road links. However, as noted in Section 9.2.4.1 below a detailed assessment of traffic related air emissions has been screened out of this assessment as the changes in traffic are below the threshold requiring a detailed assessment.

For the purposes of this assessment, high sensitivity receptors to dust soiling or dust-related human health effects are regarded as residential properties where people are likely to spend the majority of their time, schools, hospitals and residential care homes. Commercial properties and places of work are regarded as medium sensitivity while low sensitivity receptors are places where people are present for short periods or do not expect a high level of amenity. In relation to potential dust related ecological impacts, high sensitivity receptors are designated areas of conservation (either Irish or European designation) and where dust sensitive species are present.

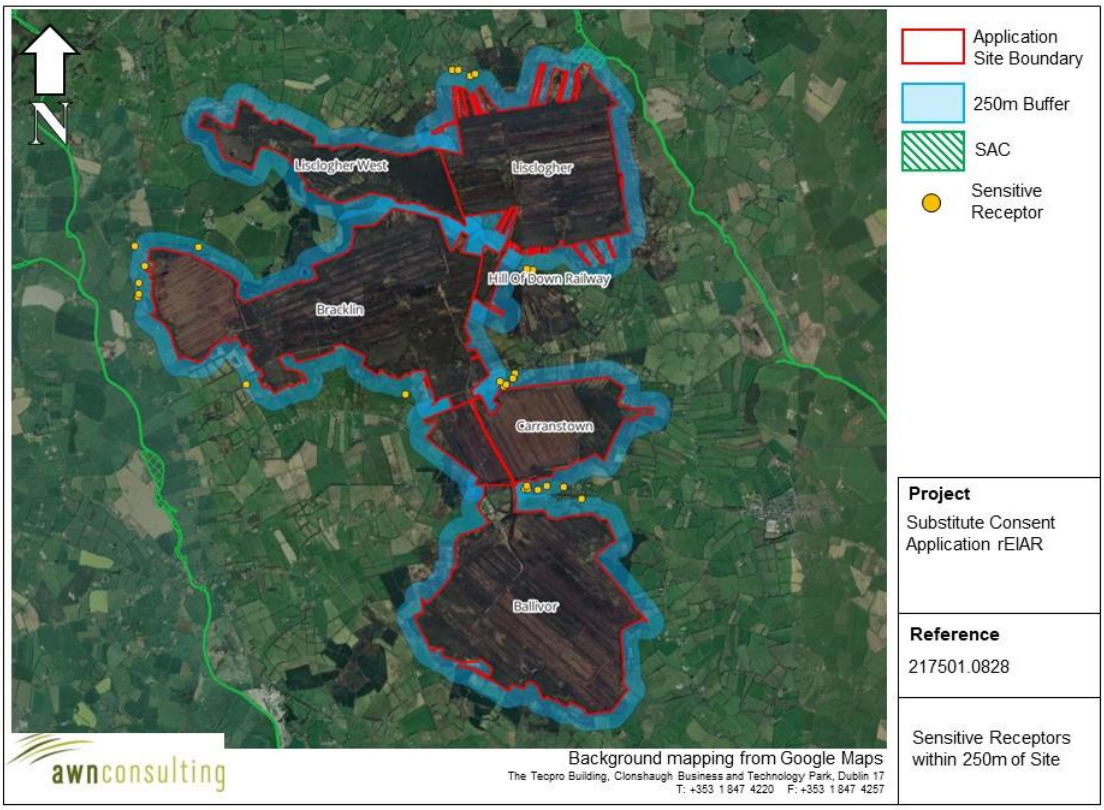

Figure 9-1 Sensitive Receptors within 250m of Application Site

9.2.4 Assessment Methodology

With respect to air quality, dust deposition impacts affecting nearby human or ecological receptors as a result of the harvesting, movement and transport of peat, is the most significant impact identified as part of this assessment. In addition, a high-level review was conducted of the potential impact due to traffic emissions of the transportation of peat from the Application Site via a rail link.

9.2.4.1 Vehicle Emissions

Emissions from cars, Heavy Goods Vehicles (HGVs) (including tractors and excavators) and railway movements associated with the operational activities have the potential to impact local air quality. The Transport Infrastructure Ireland (TII) scoping criteria outlined in their guidance document *Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106* (TII, 2022) can be used to determine the need or otherwise for a detailed air quality assessment. The TII guidance is specific to TII road and infrastructure projects, however the criteria can be applied to any development that causes a change in traffic and is considered best practice guidance.

The TII guidance (2022) states that a detailed air quality assessment is required where there are sensitive receptors within 200m of impacted road links. The guidance states that road links at a distance of greater than 200m from a sensitive receptor will not influence pollutant concentrations at the receptor. The TII *PE-ENV-01106* guidance (2022), states that road links meeting one or more of the following criteria can be defined as being 'affected' by a proposed development and should be included in the local air quality assessment:

- Annual average daily traffic (AADT) changes by 1,000 or more;
- Heavy duty vehicle (HDV) AADT changes by 200 or more;
- Daily average speed change by 10 kph or more;
- Peak hour speed change by 20 kph or more;
- A change in road alignment by 5 m or greater.

Chapter 14 - Material Assets has been reviewed in order to inform this assessment.

As detailed in Section 14.2.4 in Chapter 14 – Material Assets, the volume of traffic generated through peat extraction activities and all ancillary works through all Project Phases is presented as a percentage of the overall traffic volume recorded at traffic count locations along routes from the Application Site to end destinations. As the exact transportation routes between the Application Site and its end destinations are not known, a direct route has been assumed and/or the nearest TII counter location to the destination site. Similarly, TII traffic data predominantly covers the 2020-2024 period. Historical count data are available for some routes, and where available, have been used. The lowest average annual daily traffic (AADT) count result was used to compare the Project's traffic data in order to illustrate the precautionary scenario, as a conservative measure.

Using this as a basis, and as detailed in Section 14.2.4 in Chapter 14 – Material Assets, the maximum average daily HGV movements over all Project Phases are calculated at 22 per day, and the maximum average Light Goods Vehicle (LGV) daily movements over all Project Phases are calculated at 163 per day. Both of which are lower than the required threshold for the consideration of air quality assessment. The traffic movements generated as a result of the Project were not significant. Therefore, in accordance with the scoping criteria set out above it is not likely that any road would be classified as "affected". An assessment of the annual average traffic movements on traffic and transportation during the Peat Extraction Phase, Current Phase and Remedial Phase can be found in Chapter 14 - Material Assets.

9.2.4.2 Dust Emissions

The greatest potential impact on air quality associated with the Peat Extraction Phase, Current Phase and Remedial Phase of the Project is as a result of dust emissions, PM_{10}/$PM_{2.5}$ emissions and the potential for nuisance dust. Large particle sizes (greater than 75µm) fall rapidly out of atmospheric suspension and are subsequently deposited in close proximity to the source. Particle sizes of less than 75µm are of interest as they can remain airborne for greater distances and can give rise to the potential dust nuisance at the sensitive receptors. This size range can broadly be described as silt.

The Institute of Air Quality Management in the UK (IAQM) guidance document '*Guidance on the Assessment of Dust from Demolition and Construction*' (2024) outlines an assessment method for predicting the impact of dust emissions from construction activities based on the scale and nature of the works and the sensitivity of the area to dust impacts (hereafter referred to as the 'IAQM Guidance'). The IAQM Guidance methodology has been applied to the Peat Extraction Phase, the Current Phase and the Remedial Phase of the Project. This methodology has been used to predict the likely risk of dust impacts as a result of the Project. The use of the IAQM Guidance is recommended by TII in their air quality guidance PE-ENV-01106 (TII, 2022) and is considered best practice.

The major dust generating activities are divided into four types within the IAQM Guidance to reflect their different potential impacts. These are:

- Demolition
- Earthworks
- Construction
- Trackout (movement of heavy vehicles).

The magnitude of each of the four categories is divided into Large, Medium or Small scale depending on the nature of the activities involved. The magnitude of each activity is combined with the overall sensitivity of the area to determine the risk of dust impacts from site activities. The categories of demolition, construction and trackout are not applicable to the Application Site. The category of earthworks can be applied to the peat extraction activities and all ancillary works as the activities involved would be similar to those required for excavation and earth moving works on construction projects.

9.2.5 Difficulties Encountered

Data pertaining to the baseline year of 1988 were not available in relation to air quality. Published air quality monitoring data from the EPA is available online as far back as 2006. Data for the period 2006 – 2022 was used in the assessment in order to estimate the background air quality in the vicinity of the Application Site.

In relation to the traffic movements which would have generated dust and pollutant emissions over the Project Phases, please see Section 14.1.2 in Chapter 14 – Material Assets for the assumptions and limitations for the traffic and transport assessment in this rEIAR.

9.3 Establishment of Baseline (July 1988)

The baseline environment has been established as July 1988 for the purpose of this assessment. Historical data for air quality from this time period was investigated in order to establish the relevant baseline. However, published data for this exact time period were not available for every source and therefore, data from as far back as possible has been used in establishing the baseline.

9.3.1 Review of EPA Air Quality Monitoring Data

Air quality monitoring programs have been undertaken in the past by the EPA and Local Authorities. The EPA website details the range and scope of monitoring undertaken throughout Ireland and provides both monitoring data and the results of previous air quality assessments (EPA, 2024). Monitoring data for the period 2006 – 2022 is available on the EPA website. The results of previous air quality monitoring are published in annual reports by the EPA (EPA, 2023). Data for the monitoring period of January 2020 to December 2020 inclusive has not been used in determining background concentrations for this assessment as monitored background concentrations are not representative due to the Covid-19 restrictions in place at the time.

As part of the implementation of the Framework Directive on Air Quality (1996/62/EC), four air quality zones have been defined in Ireland for air quality management and assessment purposes. Dublin is defined as Zone A and Cork as Zone B. Zone C is composed of 23 no. towns with a population of greater than 15,000. The remainder of the country, which represents rural Ireland but also includes all towns with a population of less than 15,000 is defined as Zone D. In terms of air monitoring the Application Site is within the area categorised as Zone D (EPA, 2024). The long-term air monitoring data has been reviewed and used to determine background concentrations for the key pollutants of NO_2, PM_{10} and $PM_{2.5}$ in the region of the Application Site. The background concentrations account for all non-traffic derived emissions (e.g. natural sources, industry, home heating etc.). Representative rural Zone D sites have been reviewed as these are deemed the most appropriate in relation to the location of the Application Site which is in a predominantly rural area. There are monitoring stations in closer proximity to the Application Site however, these were not considered representative sites for background air quality purposes. The closer sites are not within the Zone D category, are suburban monitoring stations and background traffic monitoring stations which are not within a rural setting and therefore, do not represent the background air quality environment in proximity to the Application Site.

Long-term NO_2 monitoring has been carried out at the rural Zone D locations of Kilkitt Co. Monaghan and Emo, Co. Laois with data available for the period 2006 – 2022. Data from 2006 – 2022 has been reviewed in the absence of older historic data. Over the period 2006 – 2022 annual mean concentrations of NO_2 at the rural background stations of Kilkitt and Emo ranged from a maximum of 5 $\mu g/m^3$ to a low of 2 $\mu g/m^3$ (see Table 9-2) (EPA, 2023). The average annual mean concentration for the 2006 – 2022 period is 3.3 $\mu g/m^3$ which is significantly below the annual limit value of 40 $\mu g/m^3$. In addition, there were no exceedances of the 1-hour limit value of 200 $\mu g/m^3$ (18 exceedances are allowed per year). Based on the above information a conservative annual mean baseline concentration of 5 $\mu g/m^3$ has been used in this assessment.

Long-term PM_{10} monitoring has been carried out at the rural Zone D location of Kilkitt Co. Monaghan with data available for the period 2006 – 2022. Over the period 2006 – 2022 annual mean concentrations of PM_{10} ranged from a maximum of 11 µg/m^3 in 2013 to a low of 7 µg/m^3 in 2019 (see Table 9-3) (EPA, 2023). The average annual mean concentration for the 2006 – 2022 period is 8.7 µg/m^3 which is significantly below the annual limit value of 40 µg/m^3. In addition, there were few exceedances of the daily limit value of 50 µg/m^3 (35 exceedances are allowed per year). Based on the above information a conservative annual mean baseline concentration of 11 µg/m^3 has been used in this assessment.

Monitoring of $PM_{2.5}$ is undertaken at the rural Zone D location of Claremorris Co. Mayo. Data is available for the period 2011 – 2022 on the EPA website (EPA, 2024). Annual mean concentrations of $PM_{2.5}$ ranged from 4 - 8 µg/m^3 over the period 2011 – 2022 which are significantly below the annual mean limit value of 25 µg/m^3 (see Table 9-4). Based on this information, a conservative annual mean baseline $PM_{2.5}$ concentration of 8 µg/m^3 was used in this assessment.

While specific pollutant concentrations prior to 2006 are not available it can generally be assumed that historical air quality dating back to 1988 was of a lesser quality than in more recent years. The EPA state that air quality is improving over time (EPA, 2023) as a result of the introduction of various policies and measures particularly in relation to road transport emissions and the use of cleaner fuels and the gradual introduction of hybrid and electric vehicles.

Table 9-2 Trends in Zone D Air Quality – NO_2 ($\mu g/m^3$)

Station	Averaging Period	Year																
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Kilkitt, Co. Monaghan	Annual Mean NO_2 ($\mu g/m^3$)	6	2	4	3	3	3	4	4	3	2	3	2	3	5	2	2	2
	Max 1-hr NO_2 ($\mu g/m^3$)	110	83	108	50	32	65	42	72	38	97	80	25	37	59	18	15	19
	99.8 1-hr NO_2 ($\mu g/m^3$)	54	63	47	23	25	51	29	46	27	-	26	17	22	42	13	11	-
Emo, Co. Laois	Annual Mean NO_2 ($\mu g/m^3$)	-	-	-	-	-	-	-	4	3	3	4	3	3	4	3	4	3
	Max 1-hr NO_2 ($\mu g/m^3$)	-	-	-	-	-	-	-	38	31	34	194	33	91	56	179	64	179
	99.8 1-hr NO_2 ($\mu g/m^3$)	-	-	-	-	-	-	-	27	25	-	36	28	42	28	38	47	-

Table 9-3 Trends in Zone D Air Quality – PM_{10} ($\mu g/m^3$)

Station	Averaging Period	Year																
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Kilkitt, Co. Monaghan	Annual Mean PM_{10} ($\mu g/m^3$)	10	10	10	8	10	9	9	11	9	9	8	8	9	7	8	8	9
	24-hr Mean > 50 $\mu g/m^3$	0	2	1	1	0	1	1	3	2	1	0	0	0	1	0	0	0
	90th%ile of 24-hr Means ($\mu g/m^3$)	22	21	21	14	19	18	16	19	15	18	15	14	15	13	14	13	-

Table 9-4 Trends in Zone D Air Quality – $PM_{2.5}$ ($\mu g/m^3$)

Station	Averaging Period	Year											
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Claremorris, Co. Mayo	Annual Mean $PM_{2.5}$ ($\mu g/m^3$)	6	6	8	5	6	6	6	6	4	5	8	6

9.3.2 Dust Deposition Monitoring

Monitoring for dust deposition has been undertaken on the Application Site in the past as a requirement of the IPC licence for the Application Site. The monitoring results are reported in the Annual Environmental Report (AER) each year, which are included as Appendix 4-3 of this rEIAR. Monitoring typically takes place between April to September of each year to correspond to the peat extraction season. Monitoring is conducted at 1 no. location on the Application Site: DM-03 Ballivor. Monitoring results for location DM-03 are available in the AERs for 2001, 2002, 2007 and 2008 – 2020. No dust monitoring was carried out at the Application Site in 2021 and 2022 due to the cessation of the peat extraction in 2020. Table 9-5 details the maximum annual result recorded at the monitoring location as reported in the previous AERs for the Application Site. There were no results detailed in the AER for 2007, however, it was noted that there was an exceedance of the limit value at this location due to an excavator operating directly adjacent to the dust gauge thereby causing a localised non-compliance event. There were no complaints received in relation to dust emissions during this time period. No results were detailed in the AER for 2020 but it was noted that there were no non-compliance events in relation to dust deposition. There have not been any exceedances of the limit value of 350 mg/m^2/day over the period 2008 – 2020. As no extraction was carried out in 2021 or 2022, no dust monitoring took place, however it is assumed no exceedances occurred due to the lack of activity on the Application Site. No complaints pertaining to dust were received in 2021 or 2022. This indicates that dust deposition was not a significant issue at the Application Site. In addition, there is no history of complaints in relation to dust emissions at the Application Site. Based on the average monitoring results at the Application Site, a baseline concentration of 205 mg/m^2/day for dust deposition has been established.

Table 9-5 Maximum Annual Dust Deposition Monitoring Results: Source: Bord na Móna Annual Environmental Reports 2001 - 2021

Sample Period	DM-03 Ballivor	% of limit value
2001	202	58%
2002	37	11%
2007	-	-
2008	98	28%
2009	94	27%
2010	202	58%
2011	309	88%
2012	211	60%
2013	131	37%
2014	205	59%
2015	305	87%
2016	252	72%
2017	350	100%
2018	305	87%
2019	166	47%
2020	-	-
2021	-	-

2022	-	-
No. of exceedances	1	-

9.3.3 Sensitive Receptors

In addition to determining the baseline air quality in the vicinity of the Application Site, it is also necessary to determine the sensitivity of the surrounding Study Area to dust impacts as per the IAQM Guidance. Both receptor sensitivity and proximity to the Project are taken into consideration. The number of receptors with 250m of the Application Site was established using aerial mapping. It is possible that in the 1988 baseline there were fewer properties present than there currently are, however, by basing the assessment on the current property numbers this provides a conservative assessment.

In terms of sensitive receptors there is 1 no. residential property within 50m of the Application Site boundary at Carranstown Bog and there is 1 no. residential property within 50m of the Application Site boundary at Bracklin Bog. There are no high sensitivity residential properties within 50m of the Application Site boundary at the other Bogs; Ballivor, Lisclogher and Lisclogher West. There are a total of 27 no. high sensitivity residential properties within 250m of the Application Site boundary. As per the criteria in Table 9-6 the overall sensitivity of the Study Area to dust soiling impacts is **Low**.

Table 9-6 Sensitivity of the Study Area to Dust Soiling Effects on People and Property

Receptor Sensitivity	Number Of Receptors	Distance from source (m)			
		<20	<50	<100	<250
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

Source: Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2024)

In addition to sensitivity to dust soiling, the IAQM Guidance also outlines the assessment criteria for determining the sensitivity of the Study Area to human health impacts. The criteria that are taken into consideration are, the current annual mean PM_{10} concentration, receptor sensitivity and the number of receptors affected within various distance bands from any works. For the Project, a conservative estimate of the historical annual mean PM_{10} concentration is estimated to be significantly lower than the 24 $\mu g/m^3$ threshold for annual mean concentrations (Table 9-3). There are 27 no. high sensitivity residential properties within 250m of the Application Site boundary. Therefore, the sensitivity of the Study Area to dust-related human health impacts is considered **Low** as per Table 9-7.

Table 9-7 Sensitivity of the Study Area to Dust Soiling Effects on People and Property

Receptor Sensitivity	Annual Mean PM_{10} Background Concentration	Number Of Receptors	Distance from source (m)			
			<20	<50	<100	<250
High	< 24 $\mu g/m^3$	>100	Medium	Low	Low	Low
		10-100	Low	Low	Low	Low

Receptor Sensitivity	Annual Mean PM_{10} Background Concentration	Number Of Receptors	Distance from source (m)			
			<20	<50	<100	<250
		1-10	Low	Low	Low	Low
Medium	< 24 µg/m^3	>10	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Low	< 24 µg/m^3	>1	Low	Low	Low	Low

Source: Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2014)

The IAQM Guidance also outline the assessment criteria for determining the sensitivity of the area to ecological impacts from dust. The criteria take into consideration whether the receiving environment is classified as a Special Area of Conservation (SAC), a Special Protected Area (SPA), a Natural Heritage Area (NHA) or a proposed Natural Heritage Area (pNHA) as dictated by the EU Habitats Directive or whether the ecological site is a local nature reserve or home to a sensitive plant or animal species. A section of the River Boyne and River Blackwater SAC (site code 002299, Designated in 2003) is within 50m of the north-east corner of the Application Site at Lisclogher Bog. It should be noted that the EU Habitats Directive came into force in 1992 after much of the drainage works, construction works, and a large amount of the peat extraction activities had taken place on the Application Site. Nevertheless, a conservative approach has been taken in this assessment of the Project and as the River Boyne and River Blackwater SAC contains sensitive habitats that may be sensitive to dust deposition, and it is therefore considered a high sensitivity receptor. As per Table 9-8 the sensitivity of the Study Area to dust-related ecological impacts is **Medium**.

Table 9-8 Sensitivity of the Study Area to Ecological Impacts

Receptor Sensitivity	Distance from Source (m)	
	<20	<50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

Source: Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2024)

9.4 Likely Significant Effects and Associated Mitigation Measures

9.4.1 'Do-Nothing' Option

As outlined in the EPA Guidelines (May 2022), the description of 'Do-Nothing Effects' relates to the environment as it would be in the future should the project not be carried out. As discussed in Section 3.2.1 in Chapter 3, the assessment period of this rEIAR commenced in 1988, a time at which peat extraction was already well-established at the Application Site. In the context of this rEIAR, the Project has been ongoing since the baseline assessment year of 1988. As outlined in Section 3.2.1 in Chapter 3, peat extraction activities commenced at the Application Site in 1948 with the installation of drainage.

The 'Do-Nothing' option is defined as the Project (as described in Section 4.2 of Chapter 4) having ceased at the Application Site in 1988.

In the event of the cessation of the Project at the Application Site in 1988, it is assumed that those lands which by that point had not been subject to the installation of drainage and peat extraction would have

remained as a relatively intact raised bog with varying raised bog habitats (such as bog woodland, fen, sphagnum mosses).

Subsequently, other land-use practices may also have taken place on the Application Site such as agricultural or commercial forestry, or other commercial or non-commercial uses. Alternative land uses are discussed in Chapter 3 – Alternatives. Under this 'Do-Nothing' option, the IPC licence and associated ongoing decommissioning and planned rehabilitation would not have occurred.

For those lands which as of 1988 had been subject to the installation of drainage in preparation for peat extraction but not peat extraction itself, it is assumed in the 'Do-Nothing' scenario that drainage would have remained in situ. Maintenance works to keep established drainage channels clear would have ceased as of 1988 in the 'Do-Nothing' scenario. It is likely that these areas would have been subject to natural recolonisation of the bog surface. Minor third party turbary activities likely would have occurred along the intact bog edges as was common practise at sites such as the Application Site.

Peat extraction was underway at the Application Site prior to the required date for the transposition of the EIA Directive in 1988. If peat extraction and related activities ceased from 1988 onwards, then the various residual effects, described throughout this rEIAR, would not have occurred.

However, consideration must be given to the following:

- The legislative mandate given to Bord na Móna in the form of the Turf Development Act 1946, as amended) to acquire and develop peatlands; and
- The uncertainty with respect to the planning status of the activity did not arise until 2019 and was not evident in 1988.

Therefore, this 'Do-Nothing' option was not the chosen option. Peat extraction and all ancillary works have occurred at the Application Site from July 1988 onwards. A decision to cease peat extraction at the Application Site was taken in 2020 and the Application Site needs to be considered in the context of regularising (without prejudice) the planning status of the lands to facilitate future development (subject to planning consent as required). The Application Site has and will continue to revegetate, and there will be a change from areas of cutover peatland to revegetated peatland. These are described in the individual chapters of the rEIAR.

In the event that Substitute Consent is not granted in effect, the 'Do-Nothing' option represents the current situation as at the date of the application for Substitute Consent. As part of Bord na Móna's statutory obligations under IPC licence requirements, Cutaway Bog Decommissioning and Rehabilitation Plans will continue to be implemented for the Application Site separate to, and independent of, the Substitute Consent application. The implementation of the plans is included in the impact assessment below.

The role of cutaway/cutover peatlands such as the Application Site as a significant potential resource for amenity, tourism, biodiversity enhancement and conservation, improvement in air quality, climate mitigation, renewable energy development and education are part of Bord na Móna's vision for the Application Site. The regularisation of the planning status of the Application Site is a significant facilitator in ensuring the sustainable use and management of these peatlands. If this does not occur, the opportunity to continue employment and alternative use of the Application Site for the potential resources and activities mentioned above will be significantly restricted.

9.4.2 Peat Extraction Phase (July 1988 - June 2020)

9.4.2.1 Dust

Identification and Description of Impact

Peat extraction activities and ancillary works would have generated dust impacts at nearby properties within the Study Area (see Section 9.3.1). The milling, harrowing, ridging and harvesting processes would have generated some dust emissions. Dust impacts would have typically occurred within 250m of the Application Site with the majority of deposition occurring within the first 50m. However, it is noted that the stockpiled peat was typically covered once extracted in order to keep the peat dry until required for use, the covering of the peat would have greatly reduced the potential for dust emissions from stockpiled peat. Dust deposition monitoring carried out on the Application Site and reported within the AERs (see Section 9.4.1) indicated that there have been zero complaints in relation to dust emissions and only one non-compliance event (in 2007) over the period 2007 – 2022. The non-compliance event in 2007 related to an excavator operating directly adjacent to the dust gauge thereby causing a localised non-compliance event. Dust emissions reported within the AER are likely somewhat lower than emissions would have been during the initial Application Site peat extraction activities and all ancillary works prior to 1988 but give a good indication as to general dust deposition trends over the past number of years.

As per Section 9.3.4, the Study Area is of low sensitivity to dust soiling and human health impacts. A section of the River Boyne and River Blackwater SAC is considered a medium sensitivity area to dust soiling impacts on vegetation. The peat extraction activities and all ancillary works can be considered under the heading of 'Earthworks' within the IAQM Guidance as the activities involved would be similar to those required for excavation and earth moving works on construction projects. The peat extraction activities and all ancillary works can be classified as large under the IAQM Guidance due to the overall area of the Application Site being greater than the maximum IAQM criteria. Therefore, combining the large dust magnitude with the sensitivity of the Study Area as per Section 9.3.3 results in an overall low risk of dust soiling and dust-related human health impacts associated with the peat extraction activities and all ancillary works as per the criteria in Table 9-9. There was an overall medium risk of dust impacting vegetation within a section of the River Boyne and River Blackwater SAC to the direct north-east of the Application Site boundary at Lisclogher Bog as per the criteria in Table 9-9. Dust emissions from peat extraction activities and all ancillary works were long-term, localised, negative and imperceptible.

Table 9-9 Risk of Dust Impacts – Peat Extraction activities and all ancillary works

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Source: Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2024)

Control Measures

Dust emissions are dramatically reduced where rainfall has occurred due to the cohesion created between dust particles and water and the removal of suspended dust from the air. High levels of moisture either retained in soil or as a result of rainfall help suppress the generation of dust due to the cohesive nature of water between dust particles. Rain also assists in removing dust from the atmosphere through washout. It is typical to assume no dust is generated under 'wet day' conditions where rainfall greater than 0.2mm has fallen (USEPA, 2006). A review of data for Mullingar metrological station which is located approximately 16km southwest of the Application Site states that there were 209 days (57% of the year) with greater than 0.2mm rainfall annually over a 30-year averaging period (1979 –

2008) (Met Eireann, 2024). Therefore, the majority of the time dust emissions were reduced naturally due to meteorological conditions.

Dust emissions were higher from the milled peat extraction process than the sod peat extraction process. The following control measures were undertaken as part of general site management and daily operation procedures at the Application Site from the onset of extraction in the 1950s to the cessation in 2020.

- Stockpiles were compacted on either side by large rollers drawn by tractors;
- Stockpiles were covered with polythene film gauge sheets and secured in position by spreading an even layer of high moisture content milled peat;
- Avoid extraction during windy weather;
- Keep headlands clean- remove loose peat;
- Drive slow along dusty headlands; and,
- Clean road crossings.

From July 1988 to June 2020, it is considered that the majority of the time, dust emissions were reduced naturally due to meteorological conditions. Condition 5.5 of the IPC licence which came into effect in April 2000 for the Application Site specifies the following dust control measures were to be implemented on the Application Site within 6 months of granting of the licence.

Condition 5 Emissions to Air:

5.5 In relation to Dust Control the licensee shall, within six months of date of grant of this licence, develop and implement procedures to ensure that:

- *shelter belts are planted in sensitive areas,*
- *harvesting in sensitive areas is avoided during windy weather,*
- *where possible machinery use grassed pathways,*
- *headlands are kept clean and free of excessive loose peat,*
- *stockpiles are sheeted where possible,*
- *moving machinery maintains slow speeds when travelling along dusty headlands,*
- *when harvesting, the jib is maintained low to the stockpile,*
- *shelter belts are planted around outloading facilities,*
- *road transported peat is adequately covered (sheeted or similar),*
- *wind breaks are planted where-ever possible.*

9.4.2.2 Additional Traffic on Public Roads

Identification and Description of Impact

Precise historical records regarding traffic volumes associated with peat extraction activities and all ancillary works on the Application Site are not available. Therefore, screening out of "affected roads" as per the TII screening criteria (TII, 2022) set out in Section 9.2.3.1 cannot be formally completed. In the absence of detailed information for the period July 1988 – June 2020, traffic movements for the Peat Extraction Phase have been calculated using the average volume of peat carried per truck (HGV) movement against the total volume of peat extracted per year. Similarly, staff personnel movements have been calculated under the precautionary scenario that staff personnel travelled to and from the Application Site by car (or Light Goods Vehicle LGV) every working day. The average HGV movements are calculated to be 22 per day and the average LGV movements are calculated to be 163 per day which fall below the TII criteria to assess air quality impacts from traffic emissions. Consideration should also be given that emissions in vehicles pre 2022 when these scoping criteria were set by TII (TII, 2022) would have been higher so a lower threshold of change in AADT or HGV may "affect" a road link.

According to the TII significance criteria for assessing air quality impacts from traffic emissions, neutral effects are those where there is a change in concentration at a receptor of 5% or less and the background annual mean concentration is 75% or less of the ambient air quality standard. Negative effects are those where there is an increase in annual mean concentration at a receptor that does not constitute a neutral effect.

Therefore, should the TII screening criteria have been exceeded and some roads were deemed "affected", in order for an impact to occur an increase of more than 5% for annual mean NO_2, PM_{10} or $PM_{2.5}$ concentrations would need to occur at a sensitive receptor. In addition, the background pollutant concentrations would need to be over 75% of the standard; this would mean a concentration greater than 30 µg/m^3 for NO_2 and PM_{10} and a concentration greater than 18.75 µg/m^3 for $PM_{2.5}$ based on the current air quality standards (Table 9-1). As per Section 9.3.1, historical background pollutant concentrations for representative locations are significantly below these levels.

The traffic generated as a result of the peat extraction activities and all ancillary works is presented in Chapter 14 - Material Assets. Records indicate that the Derrygreenagh Bog Group, of which the Ballivor Bog Group and thus the Application Site is a subset, supplied peat to the Rhode ESB Power Station, Croghan Briquette Factory, Kilberry and Cúil na Móna when required. Information regarding which bogs supplied which specific end user, quantities of supply, frequency of travel and travel routes are not available. From 1985, peat from the Application Site was also distributed in bulk from the peat loading facility at Ballivor Works to the horticulture industry overseas via Dublin Port. The Application Site generated on average 185 transport runs (HGV and LGV combined) based on 252 working day calendar year for the Peat Extraction Phase. Based on this information it can be concluded that the traffic generated from the peat extraction activities and all ancillary works had an imperceptible impact on the local traffic flows. As per Section 9.2.4.1 none of the road links impacted by the additional traffic meet the TII scoping criteria requiring a detailed air modelling assessment. It is unlikely that traffic associated with the Application Site resulted in air quality impacts that were anything greater than neutral.

Using the assessment significance criteria for impacted road links as set out in the TII PE-ENV-01106 guidance (TII, 2022) in combination with the historical records of background air quality available for Zone D (Section 9.3.1) the worst-case impact with respect to vehicle emissions is considered neutral. This is equivalent to a direct, long-term, negative and imperceptible impact from traffic emissions associated with the peat extraction activities and all ancillary works using the EIA terminology for impact descriptions.

Control Measures

Chapter 4 outlines general control measures that were in place on site prior to 2000 with the implementation of the IPC licence and the measures imposed with the granting of the IPC licence for the site. In relation to vehicles and machinery, the below measure was enacted on the Application Site:

- Site vehicles and machinery were regularly inspected and serviced to ensure they were in good working order.

9.4.3 Current Phase (June 2020 – Present Day)

Identification and Description of Impact

During the Current Phase (June 2020 to present day), the activity on the Application Site is much reduced due to the cessation of the peat extraction. The activity was primarily limited to removal of the existing peat stockpiles off the bogs which was completed in 2023. The material was taken via tipper trucks for loading onto lorries and transported off the Application Site. There was the potential for dust emissions associated with the removal of stockpiled peat. The dust control measures stipulated within the IPC licence for the Application Site are required to be in place to avoid potential dust issues. As

mentioned, dust emissions typically occur within 250m of works areas with the majority of deposition occurring within the first 50m. There are a total of 10 no. sensitive residential receptors within 250m of the Application Site at Bracklin Bog, of which 1 no. is within 50m. There are a total of 4 no. sensitive residential receptors within 250m of the Application Site, at Ballivor Bog, none of which are within 50m (see Figure 9-1). Due to the low number of sensitive receptors and the minimal works involved in removing the stockpiled peat from the Application Site, dust emissions are predicted to have been imperceptible.

Other elements of the Current Phase are the environmental and ecological monitoring and a meteorological mast, neither of which generate significant air emissions.

Control Measures

The dust control measures outlined under condition 5.5 of the IPC licence for the Application Site (see Section 9.4.2.2) are required to be implemented throughout the Application Site until the licence is surrendered.

9.4.4 Remedial Phase

Identification and Description of Impacts

There are minimal works involved in the Remedial Phase that have the potential to impact air quality. The primary activities will involve re-vegetation of the Application Site, drain blocking and re-wetting of the bogs where possible. Ongoing monitoring of the Application Site will continue to ensure stabilisation of the Application Site and complete re-vegetation.

As per Section 9.3.3 the Study Area is of low sensitivity to dust soiling and dust-related human health impacts and medium sensitivity to dust soiling of vegetation within a section of the River Boyne and River Blackwater SAC. These sensitivities are also applicable to the Remedial Phase. There is a worst-case low risk of dust soiling and dust-related human health impacts as a result of dust emissions during the Remedial Phase and a medium risk of dust soiling impacts to vegetation in the section of the River Boyne and River Blackwater SAC. The impact to air quality from dust emissions will be short-term, negative and imperceptible.

It has been assumed that there will be 1 no. digger and 1 no. tractor required per bog for a short-term duration to assist in drain blocking activities. Emissions from site machinery and vehicles accessing the site during the Remedial Phase will result in a neutral impact to air quality due to the low volume of vehicles involved (see Chapter 14 - Material Assets).

Control Measures

The dust control measures outlined under condition 5.5 of the IPC licence for the Application Site (see Section 9.4.2.1) should be implemented throughout the Remedial Phase of the Application Site to ensure dust emissions are minimised until the licence is surrendered.

9.5 Residual Effects

9.5.1 Peat Extraction Phase: July 1988 - June 2020

9.5.1.1 Dust

The peat extraction activities and all ancillary works would have led to some dust emissions with the potential to cause soiling and human health impacts at nearby sensitive receptors. It has been established that the peat extraction activities and all ancillary works had an overall **Low Risk** of dust soiling and human health impacts and a **Medium Risk** of dust soiling impacts on vegetation within a section of the River Boyne and River Blackwater SAC. As part of the IPC licence for the Application Site a number of dust control measures were required to be implemented. In addition, dust monitoring was required to ensure dust emissions were not causing issue at nearby sensitive receptors. As per Section 9.3.2 dust monitoring results available for the period 2008 – 2022 indicated there were no exceedances of the emission limit value of 350 mg/m^2/day at the monitoring location on the Application Site and therefore dust emissions were not causing a nuisance in the Study Area. In addition, there is no history of complaints in relation to dust emissions. It can be concluded that the activities on site in conjunction with the dust control measures implemented did not lead to any significant air quality impacts on the local environment. The peat extraction activities and all ancillary works had a long-term, localised, negative and imperceptible impact on air quality.

9.5.1.2 Additional Traffic on Public Roads

Emissions from vehicles during the Peat Extraction Phase would have impacted air quality. The impact of additional vehicles on the local road network was considered with reference to the TII screening criteria outlined in their PE-ENV-01106 guidance document (TII, 2022). It was concluded that the worst-case impact of traffic emissions associated with peat extraction activities and all ancillary works was long-term, localised, negative and imperceptible.

9.5.2 Current Phase (June 2020 – Present Day)

There are a low number of sensitive receptors within close proximity to the Application Site. With the implementation of the dust control measures stipulated withing the IPC licence for the Application Site, dust emissions associated with the Current Phase will be imperceptible.

Due to the low volume of vehicles and machinery involved in the Current Phase, exhaust emissions are predicted to have an imperceptible impact on air quality.

9.5.3 Remedial Phase

Residual impacts to air quality during the Remedial Phase will be short-term, neutral and imperceptible.

9.6 Significance of Effects

9.6.1 Peat Extraction Phase (July 1988 - June 2020)

9.6.1.1 Dust

Impacts to air quality were long-term, localised, negative and imperceptible with respect to dust emissions.

9.6.1.2 Additional Traffic on Public Roads

The impact of traffic emissions associated with peat extraction activities and all ancillary works was direct, long-term, negative and imperceptible.

9.6.2 Current Phase (June 2020 – Present Day)

No significant impacts to air quality are predicted during the Current Phase. Impacts are short-term, negative and imperceptible with respect to air quality.

9.6.3 Remedial Phase

No significant impacts to air quality are predicted for the Remedial Phase. Impacts will be short-term, neutral and imperceptible.

9.7 Cumulative and In-Combination Effects

There is the potential for cumulative impacts to air quality as a result of the proposed Ballivor Wind Farm, the permitted Bracklyn Wind Farm and the rehabilitation plans for the Application Site. Dust emissions associated with the construction phase of the Ballivor and Bracklyn Wind Farm developments may occur in combination with dust emissions associated with the drain blocking activities as part of the rehabilitation plans for the Application Site should these activities occur at the same time. These cumulative emissions have the potential to impact nearby residential receptors. However, dust control measures will be in place during the Remedial Phase and dust mitigation measures will be implemented throughout the construction phase of the wind farm developments. Therefore, significant cumulative dust impacts to nearby receptors are not predicted. Cumulative dust emissions will be short-term, negative and slight.

Due to the low volume of vehicles and machinery involved in the Remedial Phase cumulative air quality impacts associated with vehicle emissions from the construction or operation of the wind farm developments are not predicted.

There is no potential for cumulative impacts to air quality as a result of the peat extraction activities and all ancillary works from 1948 – 1988. Similar impacts to those described for the Peat Extraction Phase July 1988 – June 2020, would have occurred, however, these impacts did not coincide and therefore, cumulative impacts to air quality did not occur.

9.8 Conclusion

This chapter of the rEIAR describes and assesses the residual direct and indirect air quality impacts of the peat extraction activities and all ancillary works, at the Application Site. The air quality impact assessments have been prepared for the Peat Extraction Phase, the Current Phase and the Remedial Phase.

For the purposes of this assessment, while the activities associated with the Project assessed have occurred over the past decades, beginning in 1988 and continuing to present day, impacts have been assessed against the most recently published air quality standards which are likely more stringent than historical standards from previous years. Therefore, if it can be determined that, based on the most recent standards, no significant effects occurred as a result of the Project, then it is unlikely that significant impacts occurred based on historical standards.

The baseline environment has been established with reference to published air quality data from the Environmental Protection Agency (EPA). Historic air quality monitoring data from the EPA for the pollutants nitrogen dioxide (NO_2), particulate matter less than 10 microns (PM_{10}) and particulate matter less than 2.5 microns ($PM_{2.5}$) for representative rural locations was reviewed. The air quality in the region of the Application Site is of generally good quality with concentrations of pollutants below the ambient air quality standards. Historic dust deposition monitoring results for the Application Site indicate that dust nuisance is not an issue in the Study Area and no complaints regarding dust deposition have been recorded. Air quality has continued to improve in recent years as a result of the implementation of national plans and policies.

Peat Extraction Phase (July 1988 – June 2020)

Dust emissions during peat extraction activities and all ancillary works had the potential to impact nearby human and ecological sensitive receptors. The Study Area was deemed of low sensitivity in relation to dust soiling and dust related human health impacts. The Study Area is considered of medium sensitivity in relation to dust related ecological impacts due to the presence of the River Boyne and River Blackwater SAC. It was determined that there was an overall low risk of dust soiling and human health related dust impacts and a medium risk of dust related ecological impacts. As part of the IPC licence for the Application Site a number of dust control measures were required to be implemented. In addition, dust monitoring was required to ensure dust emissions were not causing issue at nearby sensitive receptors, the results of which indicated that dust emissions from site works were insignificant.

Vehicle exhaust emissions from vehicles accessing the Application Site and transporting peat from the Application Site also had the potential to impact air quality. The historical traffic figures were reviewed, and it was determined that the traffic generated from the peat extraction activities and all ancillary works had an imperceptible impact on the local traffic flows.

The impact to air quality as a result of the Peat Extraction Phase was assessed to be long-term, negative, localised and imperceptible.

Current Phase (June 2020 – Present Day)

During the Current Phase (June 2020 to Present Day), the activity was limited to removal of the existing peat stockpiles off the bogs which was completed in 2023. The material was taken via tipper trucks for loading onto lorries and transported off the Application Site. There was the potential for dust emissions associated with the removal of stockpiled peat. The dust control measures stipulated within the IPC licence for the Application Site are required to be in place to avoid potential dust issues. Due to the low number of sensitive receptors and the minimal works involved in removing the stockpiled peat from the Application Site, dust emissions are predicted to have been imperceptible.

Due to the low volume of vehicles and machinery involved in the Current Phase, exhaust emissions are predicted to have an imperceptible impact on air quality.

Impacts will be short-term, negative and imperceptible with respect to air quality.

Remedial Phase

There are minimal works involved in the Remedial Phase that have the potential to impact air quality. The primary activities will involve re-vegetation of the Application Site, drain blocking and re-wetting of the bogs where possible. There is a worst-case low risk of dust soiling and human health impacts as a result of dust emissions during the Remedial Phase and a medium risk of dust soiling impacts to vegetation in the section of the River Boyne and River Blackwater SAC. The impact to air quality from dust emissions will be short-term, negative and imperceptible.

Emissions from site machinery and vehicles accessing the Application Site during the Remedial Phase will result in a neutral impact to air quality due to the low volume of vehicles involved.

Impacts to air quality during the remedial phase will be short-term, neutral and imperceptible.